EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6844	(435/7.2,7.1).CCLS.	USPAT; EPO	OR	OFF	2006/03/06 10:13
L2	2470	(436/514,547,548).CCLS.	USPAT; EPO	OR	OFF	2006/03/06 10:14
L3	887	PDGF near3 (alpha or beta)	USPAT; EPO	OR	OFF	2006/03/06 10:14
L4	240	PDGF near3 (alpha or beta) near3 receptor	USPAT; EPO	OR	OFF	2006/03/06 10:14
L5	45	l4 same antibody	USPAT; EPO	OR	OFF	2006/03/06 10:14
L6	25	l4 same antibody same (AA or BB or AB)	USPAT; EPO	OR	OFF	2006/03/06 10:15

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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2


* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1           Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2           "Ask CAS" for self-help around the clock
 NEWS  3  DEC 05   CASREACT(R) - Over 10 million reactions available
 NEWS  4  DEC 14   2006 MeSH terms loaded in MEDLINE/LMEDLINE
 NEWS  5  DEC 14   2006 MeSH terms loaded for MEDLINE file segment of TOXCENTER
 NEWS  6  DEC 14   CA/CAplus to be enhanced with updated IPC codes
 NEWS  7  DEC 21   IPC search and display fields enhanced in CA/CAplus with the
                   IPC reform
 NEWS  8  DEC 23   New IPC8 SEARCH, DISPLAY, and SELECT fields in USPATFULL/
                   USPAT2
 NEWS  9  JAN 13   IPC 8 searching in IFIPAT, IFIUDB, and IFICDB
 NEWS 10  JAN 13   New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to
                   INPADOC
 NEWS 11  JAN 17   Pre-1988 INPI data added to MARPAT
 NEWS 12  JAN 17   IPC 8 in the WPI family of databases including WPIFV
 NEWS 13  JAN 30   Saved answer limit increased
 NEWS 14  JAN 31   Monthly current-awareness alert (SDI) frequency
                   added to TULSA
 NEWS 15  FEB 21   STN AnaVist, Version 1.1, lets you share your STN AnaVist
                   visualization results
 NEWS 16  FEB 22   Status of current WO (PCT) information on STN
 NEWS 17  FEB 22   The IPC thesaurus added to additional patent databases on STN
 NEWS 18  FEB 22   Updates in EPFULL; IPC 8 enhancements added
 NEWS 19  FEB 27   New STN AnaVist pricing effective March 1, 2006
 NEWS 20  FEB 28   MEDLINE/LMEDLINE reload improves functionality
 NEWS 21  FEB 28   TOXCENTER reloaded with enhancements
 NEWS 22  FEB 28   REGISTRY/ZREGISTRY enhanced with more experimental spectral
                   property data
 NEWS 23  MAR 01   INSPEC reloaded and enhanced
 NEWS 24  MAR 03   Updates in PATDPA; addition of IPC 8 data without attributes

 NEWS EXPRESS  FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,
               CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 19 DECEMBER 2005.
               V8.0 AND V8.01 USERS CAN OBTAIN THE UPGRADE TO V8.01a AT
               http://download.cas.org/express/v8.0-Discover/

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  * * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *
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FILE 'HOME' ENTERED AT 10:17:18 ON 06 MAR 2006

=> file .meeting
'EVENTLINE' IS NOT A VALID FILE NAME
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available.  If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
accessing the remaining file names entered.
ENTER A FILE NAME OR (IGNORE):ignore
'MEDICONF' IS NOT A VALID FILE NAME
Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
that are available.  If you have requested multiple files, you can
specify a corrected file name or you can enter "IGNORE" to continue
accessing the remaining file names entered.
ENTER A FILE NAME OR (IGNORE):ignore
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       0.21       0.21

FILE 'AGRICOLA' ENTERED AT 10:17:43 ON 06 MAR 2006

FILE 'BIOTECHNO' ENTERED AT 10:17:43 ON 06 MAR 2006
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=> PDGF(3A)(alpha or beta)(3A)receptor
L1            9 FILE AGRICOLA
L2          621 FILE BIOTECHNO
L3           16 FILE CONFSCI
L4            0 FILE HEALSAFE
L5            0 FILE IMSDRUGCONF
L6          394 FILE LIFESCI
L7          466 FILE PASCAL

TOTAL FOR ALL FILES
L8         1506 PDGF(3A)(ALPHA OR BETA)(3A) RECEPTOR

=>  PDGF(3A)(alpha or beta)(3A)receptor(8A)antibody
L9            0 FILE AGRICOLA
L10          28 FILE BIOTECHNO
L11           1 FILE CONFSCI
L12           0 FILE HEALSAFE
L13           0 FILE IMSDRUGCONF
L14          23 FILE LIFESCI
L15          23 FILE PASCAL

TOTAL FOR ALL FILES
L16          75 PDGF(3A)(ALPHA OR BETA)(3A) RECEPTOR(8A) ANTIBODY
```

```
=> L16 and (AA or BB or AB)
L17          0 FILE AGRICOLA
L18         17 FILE BIOTECHNO
L19          0 FILE CONFSCI
L20          0 FILE HEALSAFE
L21          0 FILE IMSDRUGCONF
L22         12 FILE LIFESCI
L23         15 FILE PASCAL

TOTAL FOR ALL FILES
L24         44 L16 AND (AA OR BB OR AB)

=> l24 and affinity
L25          0 FILE AGRICOLA
L26          3 FILE BIOTECHNO
L27          0 FILE CONFSCI
L28          0 FILE HEALSAFE
L29          0 FILE IMSDRUGCONF
L30          1 FILE LIFESCI
L31          1 FILE PASCAL

TOTAL FOR ALL FILES
L32          5 L24 AND AFFINITY

=> dup rem
ENTER L# LIST OR (END):l32
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L32
L33           3 DUP REM L32 (2 DUPLICATES REMOVED)

=> d l33 ibib abs total

L33   ANSWER 1 OF 3  BIOTECHNO  COPYRIGHT 2006 Elsevier Science B.V. on STN
ACCESSION NUMBER:         1993:23335427   BIOTECHNO
TITLE:                    Expression of platelet-derived growth factor β
                          receptor on human monocyte-derived macrophages and
                          effects of platelet-derived growth factor BB
                          dimer on the cellular function
AUTHOR:                   Inaba T.; Shimano H.; Gotoda T.; Harada K.; Shimada
                          M.; Ohsuga J.-I.; Watanabe Y.; Kawamura M.; Yazaki Y.;
                          Yamada N.
CORPORATE SOURCE:         Third Dept. of Internal Medicine, Faculty of Medicine,
                          University of Tokyo,Hongo, Tokyo 113, Japan.
SOURCE:                   Journal of Biological Chemistry, (1993), 268/32
                          (24353-24360)
                          CODEN: JBCHA3  ISSN: 0021-9258
DOCUMENT TYPE:            Journal; Article
COUNTRY:                  United States
LANGUAGE:                 English
SUMMARY LANGUAGE:         English
AN    1993:23335427   BIOTECHNO
AB    Platelet-derived growth factor (PDGF) plays an important role in the
      process of atherosclerosis which is characterized by the presence of
      macrophage-derived foam cells. In the present study, the induction of the
      mRNA of PDGF-β receptor was demonstrated during cell differentiation
      of human monocyte-macrophages, whereas no mRNA was detected in the cells
      during the early days of culture. Flow cytometry analysis using
      antibodies specific for PDGF-.beta.
      receptor and CD14 showed the presence of both PDGF-β
      receptor and CD14 on human monocyte-derived macrophages, whereas no
      PDGF-β receptor was detected on human monocytes 4 h after cell
      adhesion to a culture dish. In the binding assay of PDGF-BB on
      human monocyte-derived macrophages, a saturable and high affinity
      binding site with K(d) of 27.5 pM and B(max) of 23.3 fmol/mg of cell
      protein was demonstrated. When human monocytes were cultured in the
      presence of the protein kinase C inhibitor staurosporine, PDGF-β
      receptor induction was inhibited, and tetradecanoylphorbol acetate
      enhanced PDGF-β receptor expression in human monocyte-derived
```

macrophages, indicating that PDGF-β receptor expression is associated with maturation and differentiation of monocyte-macrophages through the activation of protein kinase C. In response to PDGF-**BB** homodimer, PDGF-β receptor was phosphorylated, and thymidine uptake and inositol trisphosphate production were stimulated in monocyte-derived macrophages. Furthermore, PDGF-**BB** suppressed the production of macrophage colony-stimulating factor in macrophages. The expression of PDGF-β receptor on human monocyte-derived macrophages suggests that PDGF influences the process of atherosclerosis by regulating the function of macrophages as well as smooth muscle cells in the vascular wall.

L33 ANSWER 2 OF 3 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1993:23186325 BIOTECHNO
TITLE: Conservation in sequence and **affinity** of human and rodent PDGF ligands and receptors
AUTHOR: Herren B.; Weyer K.A.; Rouge M.; Lotscher P.; Pech M.
CORPORATE SOURCE: Pharma Division, Preclinical Research, F. Hoffmann-La Roche, Grenzacherstrasse 124,CH-4002 Basel, Switzerland.
SOURCE: Biochimica et Biophysica Acta - Gene Structure and Expression, (1993), 1173/3 (294-302)
CODEN: BBGSD5 ISSN: 0167-4781
DOCUMENT TYPE: Journal; Article
COUNTRY: Netherlands
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1993:23186325 BIOTECHNO
AB Platelet-derived growth factor (PDGF) consists of two chains, PDGF-A and-B, which activate as homo- or heterodimers two **receptors**, α and . **beta**.. To test **PDGF** function in vivo we have generated neutralizing monoclonal **antibodies**. When analyzed with rat PDGFs only antibodies raised against human PDGF-**AA** showed cross-species activity. This correlated with complete amino acid sequence conservation of PDGF-A whereas rat PDGF-B differed in six positions when cloned rat PDGF cDNAs were compared with their human homologs within the receptor binding region. Extracellular domains of cloned rat PDGF α- and β-receptor cDNAs did not reflect this difference in cross-species ligand conservation. When rat extracellular domains were expressed as soluble proteins they bound human PDGF-**BB** with high **affinity** after immobilization of the purified proteins on solid phase. Dissociation constants were identical to those of their human homologs. Thus, high **affinity** binding of human PDGP-**BB** to extracellular domains does not depend on species origin but only on receptor type.

L33 ANSWER 3 OF 3 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1992:22087723 BIOTECHNO
TITLE: Characterization of platelet-derived growth factor and platelet-derived growth factor receptor expression in asbestos-induced rat mesothelioma
AUTHOR: Walker C.; Bermudez E.; Stewart W.; Bonner J.; Molloy C.J.; Everitt J.
CORPORATE SOURCE: Chemical Industry Institute of Toxicology, Research Triangle Park, NC 27709, United States.
SOURCE: Cancer Research, (1992), 52/2 (301-306)
CODEN: CNREA8 ISSN: 0008-5472
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1992:22087723 BIOTECHNO
AB Although altered expression of platelet-derived growth factor (PDGF) is a hallmark of human mesothelioma, expression of PDGF receptors has not been characterized in this cell type. In addition, the expression of this growth factor and its cognate receptor in rodent mesothelioma has not been investigated. In this study, examination of transformed mesothelial

cells derived from asbestos-induced rat mesotheliomas revealed that these cells expressed high **affinity** PDGF receptors (K(d) = 0.5 nM) and receptor number was 1.6 x 10.sup.5/cell. Western analysis using **antibodies** specific for either the α-type or . **beta** .-type **PDGF receptor** and Northern analysis using probes specific for α- and β-type receptor RNA transcripts indicated that these cells expressed β-type PDGF receptors but that α-type receptors could not be detected. However, when the mesothelioma-derived cells were examined for the expression of PDGF, no expression of this growth factor could be detected. The transformed cells expressed no detectable A- or B-chain PDGF RNA transcripts; and using a competitive enzyme immunoassay specific for isoforms containing the B chain of PDGF and a sandwich enzyme-linked immunosorbent assay specific for A-chain-containing isoforms, neither **AA**, nor **AB**, nor **BB** isoforms of this growth factor could be detected in medium conditioned by these cells. The absence of alterations in PDGF expression in rat mesothelioma, in contrast to the data for the human disease, suggests that the production of this growth factor by transformed mesothelial cells may be species specific.

ENTER A FILE NAME OR (IGNORE):ignore

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'AGRICOLA' ENTERED AT 09:56:13 ON 06 JAN 2006

FILE 'BIOTECHNO' ENTERED AT 09:56:13 ON 06 JAN 2006

FILE 'CONFSCI' ENTERED AT 09:56:13 ON 06 JAN 2006

FILE 'HEALSAFE' ENTERED AT 09:56:13 ON 06 JAN 2006

FILE 'IMSDRUGCONF' ENTERED AT 09:56:13 ON 06 JAN 2006

FILE 'LIFESCI' ENTERED AT 09:56:13 ON 06 JAN 2006

FILE 'PASCAL' ENTERED AT 09:56:13 ON 06 JAN 2006

=> (alpha or beta)(1A)(PDGF)(1A)receptor

L1	9	FILE AGRICOLA
L2	544	FILE BIOTECHNO
L3	15	FILE CONFSCI
L4	0	FILE HEALSAFE
L5	0	FILE IMSDRUGCONF
L6	349	FILE LIFESCI
L7	385	FILE PASCAL

TOTAL FOR ALL FILES

L8	1302	(ALPHA OR BETA)(1A)(PDGF)(1A) RECEPTOR

=> l8(10A)antibody

L9	0	FILE AGRICOLA
L10	26	FILE BIOTECHNO
L11	1	FILE CONFSCI
L12	0	FILE HEALSAFE
L13	0	FILE IMSDRUGCONF

L14 21 FILE LIFESCI
L15 16 FILE PASCAL

TOTAL FOR ALL FILES
L16 64 L8(10A) ANTIBODY

=> l16 and isoform
L17 0 FILE AGRICOLA
L18 6 FILE BIOTECHNO
L19 0 FILE CONFSCI
L20 0 FILE HEALSAFE
L21 0 FILE IMSDRUGCONF
L22 3 FILE LIFESCI
L23 3 FILE PASCAL

TOTAL FOR ALL FILES
L24 12 L16 AND ISOFORM

=> dup rem
ENTER L# LIST OR (END):l24
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF'.
ANSWERS FROM THESE FILES WILL BE CONSIDERED UNIQUE
PROCESSING COMPLETED FOR L24
L25 8 DUP REM L24 (4 DUPLICATES REMOVED)

=> d l25 ibib abs total

L25 ANSWER 1 OF 8 PASCAL COPYRIGHT 2006 INIST-CNRS. ALL RIGHTS RESERVED. on
STN
ACCESSION NUMBER: 1998-0080771 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 1998 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Platelet-derived growth factor .beta.-receptors can both promote and inhibit chemotaxis in human vascular smooth muscle cells
AUTHOR: CLUNN G. F.; REFSON J. S.; LYMN J. S.; HUGHES A. D.
CORPORATE SOURCE: Department of Clinical Pharmacology, Imperial College School of Medicine at St Mary's, London, United Kingdom
SOURCE: Arteriosclerosis, thrombosis, and vascular biology, (1997), 17(11), 2622-2629, 25 refs.
ISSN: 1079-5642
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States

LANGUAGE: English
AVAILABILITY: INIST-19104, 354000077257250390
AN 1998-0080771 PASCAL

AB The effect of the three platelet-derived growth factor (PDGF) isoforms AA, AB, and BB on migration was investigated in cultured human saphenous vein smooth muscle cells. The modified Boyden chamber technique yielded efficacies BB'AB, AA=0. However, the BB concentration-response relationship displayed a pronounced peak, occurring between 1 and 10 ng/mL, with no response above this range. Checkerboard analysis showed that the promotion of migration at low concentrations was chemotactic in nature but that the downturn was independent of gradient. Furthermore, at high concentrations BB was able to prevent chemotaxis induced by fetal calf serum and epidermal growth factor (EGF). Experiments using low concentrations of BB in combination with high concentrations of AA to saturate PDGF .alpha .-receptors in the presence and absence of a neutralizing antibody to .alpha.-receptors revealed that .alpha.-receptor activation induced partial inhibition of chemotaxis but this did not account for the inhibition of migration by high concentrations of BB. Despite possessing no significant chemotactic action itself, high concentrations of the AB isoform completely inhibited BB induced chemotaxis. Taken together these results suggest that the chemotactic signal induced by PDGF is dominated by PDGF .beta.-receptors and switches from positive at low concentrations to negative at higher concentrations. Stimulation of DNA synthesis by the three isoforms (as measured by [.sup.3H] thymidine incorporation) yielded saturable responses for the AB and BB isoforms, with similar efficacy and weak or no response for the AA isoform. Concentration-dependent patterns of tyrosine phosphorylation of certain proteins mirrored the form of the chemotactic response and suggest one possible underlying regulatory mechanism to account for the disparity between PDGF-induced chemotaxis and DNA synthesis.

L25 ANSWER 2 OF 8 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1995:25247395 BIOTECHNO
TITLE: Elevated D-glucose concentrations modulate TGF-.beta.1 synthesis by human cultured renal proximal tubular cells: The permissive role of platelet- derived growth factor
AUTHOR: Phillips A.O.; Steadman R.; Topley N.; Williams J.D.
CORPORATE SOURCE: Institute of Nephrology, Cardiff Royal Infirmary, New Port Road,Cardiff CF2 1SZ, United Kingdom.
SOURCE: American Journal of Pathology, (1995), 147/2 (362-374)

CODEN: AJPAA4 ISSN: 0002-9440
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1995:25247395 BIOTECHNO
AB Interstitial fibrosis is a marker of progression of renal impairment in diabetic nephropathy. Transforming growth factor (TGF)-.beta.1 is one of a group of pro-fibrotic cytokines and growth factors that have been associated with the development of interstitial fibrosis. We have examined the modulating influence of glucose on the production of TGF-.beta.1 by cultured human proximal tubular cells. Incubation of growth-arrested human proximal tubular cells (HPTC) (72 hours in serum free medium) in 25 mmol/L D-glucose resulted in increased expression of TGF-.beta.1 mRNA (as assessed by reverse transcription polymerase chain reaction). This was apparent after 6 hours and increased up to 120 hours exposure. TGF-.beta.1 secretion, however, as measured by specific enzyme-linked immunoassay, was unaffected by exposure to 25 mmol/L D-glucose. Sequential stimulation of HPTC, first with 25 mmol/L D-glucose for 48 hours and then with platelet-derived growth factor (PDGF) isoforms, resulted in a dose-dependent secretion of TGF-.beta.1. Pre-exposure to 5 mmol/L D-glucose or 25 mmol/L L-glucose did not prime for TGF-.beta.1 release. At 50 ng/ml PDGF this effect was greatest for the AA isoform (AA 31.4 .+-. 7.1, AB 20.98 .+-. 89, BB 7.8 .+-. 2.2, $P < 0.05$ for all versus control, $n = 3$, mean .+-. SEM ng/10.sup.6 cells/24 hours). These effects were blocked by the addition of antibody to the PDGF .alpha.-receptor
. TGF-.beta.1 secretion was inhibited in a dose-dependent manner by pretreatment with cyclohexamide, but was not affected by pretreatment with actinomycin D. Stimulation of HPTC with a single dose of PDGF induced TGF-.beta.1 mRNA: however, only after application of a second dose of PDGF (after TGF-.beta.1 mRNA induction) did TGF-.beta.1 protein secretion occur. We also demonstrated that PDGF stimulation of HPTC induced an inherently more stable TGF-.beta.1 mRNA transcript. These findings demonstrate that elevated D- glucose concentration alone is insufficient to lead to increased TGF-.beta.1 secretion by HPTC despite increased mRNA expression. However, application of a second stimulus such as PDGF, when TGF-.beta.1 mRNA expression is increased, leads to increased protein synthesis and secretion of TGF-.beta.1. This implies that elevated glucose concentrations might prime proximal tubular cells for TGF-.beta.1 synthesis and thus contribute to the development of interstitial fibrosis.

L25 ANSWER 3 OF 8 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE

ACCESSION NUMBER: 1993:23162254 BIOTECHNO
TITLE: Divergent regulation of phosphatidylinositol 3-kinase p85.alpha. and p85.beta. isoforms upon T cell activation
AUTHOR: Reif K.; Gout I.; Waterfield M.D.; Cantrell D.A.
CORPORATE SOURCE: Lymphocyte Activation Laboratory, Imperial Cancer Research Fund, 44 Lincoln's Inn Fields,London WC2A 3PX, United Kingdom.
SOURCE: Journal of Biological Chemistry, (1993), 268/15 (10780-10788)
CODEN: JBCHA3 ISSN: 0021-9258
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1993:23162254 BIOTECHNO
AB Phosphatidylinositol (PtdIns) 3-kinase is composed of a catalytic p110 subunit and a regulatory p85 subunit. A synthetic phosphopeptide corresponding to the kinase insert of the human PDGF . beta. subunit receptor and monoclonal antibodies raised against the two described p85 isoforms , p85.alpha. and p85.beta. were used to isolate PtdIns 3-kinase from human T lymphocytes. We demonstrate that T cells express both p85.alpha. and p85.beta. proteins. Both isoforms tightly associate with a p110 protein and with PtdIns 3-kinase activity in T cells. Upon triggering of the T cell antigen receptor (TCR)/CD3 complex or activation of protein kinase C (PKC) the p110 protein complexed to p85.alpha. becomes rapidly phosphorylated exclusively on serine residues. p85.alpha. does not appear to undergo a change in its basal serine phosphorylation during T cell activation. In contrast, stimulation of the TCR/CD3 complex or PKC, results in a marked and rapid increase in phosphorylation of p85.beta. on threonine residues. These data show that PtdIns 3-kinase can be a substrate for serine/threonine kinases in T cells. The differential phosphorylation of p85.alpha. and p85.beta. reveals the potential for divergent regulation and function of these two PtdIns 3-kinase isoforms during T cell activation.

L25 ANSWER 4 OF 8 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1993:23343568 BIOTECHNO
TITLE: Involvement of PKC-.alpha. in PDGF-mediated mitogenic signaling in human mesangial cells
AUTHOR: Choudhury G.G.; Biswas P.; Grandaliano G.; Abboud H.E.
CORPORATE SOURCE: Division of Nephrology, Dept. of Medicine, Univ. of Texas Health Science Center, 7703 Floyd Curl Drive,San Antonio, TX 78284-7882, United States.

SOURCE: American Journal of Physiology - Renal Fluid and Electrolyte Physiology, (1993), 265/5 34-5 (F634-F642)
CODEN: AJPFDM ISSN: 0002-9513
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1993:23343568 BIOTECHNO
AB Platelet-derived growth factor (PDGF) is a potent mitogen for a variety of cells. The calcium/phospholipid-dependent protein kinase C (PKC) represents a major signal transduction pathway for many growth stimuli including PDGF. Various isoforms of PKC are differentially expressed in the same or in different cells and tissues, and diverse stimuli may selectively activate one or more PKC isoforms. We studied the effect of PDGF on DNA synthesis and on the activity of PKC in human mesangial cells and vascular pericytes in the glomerular microvascular bed. PKC activity was measured as the amount of phosphorylated myelin basic protein-derived peptide substrate in the absence and presence of an inhibitor, a peptide spanning the pseudosubstrate region of PKC. PDGF (15 ng/ml) stimulated PKC activity within 5 min, and the effect was sustained for 60 min. Pretreatment of mesangial cells with 1-(5- isoquinolinesulfonyl)-2-methylpiperazine (H-7), an inhibitor of PKC, abolished the stimulation of PKC and DNA synthesis in response to PDGF. This effect of H-7 was specific, because H-7 did not inhibit the tyrosine phosphorylation of the PDGF receptor in vivo when added to the cells or the in vitro kinase activity in the PDGF .beta.-receptor immunoprecipitates.
Utilizing isotype-specific antibodies against PKC-.alpha., -.beta., or -.gamma. for immunoprecipitation of PDGF-treated mesangial cell extracts, followed by assay of PKC activity, we demonstrated the activation of PKC-.alpha. only. Northern blot analysis of mRNA prepared from mesangial cells also revealed two transcripts, 3.7 kb and 1.8 kb, that hybridized with cDNA specific for PKC-.alpha.. Moreover, specific ribonuclease (RNase) protection assay using cRNAs specific for PKC-.alpha., -.beta., and -.gamma. as probes revealed predominantly the presence of PKC-.alpha. in mesangial cells. These studies demonstrate that in mesangial cells stimulation of DNA synthesis in response to PDGF is dependent on activation of PKC and that the .alpha.-isoform of this kinase may mediate the mitogenic effect of PDGF.

L25 ANSWER 5 OF 8 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
DUPLICATE
ACCESSION NUMBER: 1992:22087723 BIOTECHNO
TITLE: Characterization of platelet-derived growth factor and platelet-derived growth factor receptor expression in

asbestos-induced rat mesothelioma
AUTHOR: Walker C.; Bermudez E.; Stewart W.; Bonner J.; Molloy C.J.; Everitt J.
CORPORATE SOURCE: Chemical Industry Institute of Toxicology, Research Triangle Park, NC 27709, United States.
SOURCE: Cancer Research, (1992), 52/2 (301-306)
CODEN: CNREA8 ISSN: 0008-5472
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1992:22087723 BIOTECHNO
AB Although altered expression of platelet-derived growth factor (PDGF) is a hallmark of human mesothelioma, expression of PDGF receptors has not been characterized in this cell type. In addition, the expression of this growth factor and its cognate receptor in rodent mesothelioma has not been investigated. In this study, examination of transformed mesothelial cells derived from asbestos-induced rat mesotheliomas revealed that these cells expressed high affinity PDGF receptors (K(d) = 0.5 nM) and receptor number was 1.6 x 10.sup.5/cell. Western analysis using antibodies specific for either the .alpha.-type or .beta.-type PDGF receptor and Northern analysis using probes specific for .alpha.- and .beta.-type receptor RNA transcripts indicated that these cells expressed .beta.-type PDGF receptors but that .alpha.-type receptors could not be detected. However, when the mesothelioma-derived cells were examined for the expression of PDGF, no expression of this growth factor could be detected. The transformed cells expressed no detectable A- or B-chain PDGF RNA transcripts; and using a competitive enzyme immunoassay specific for isoforms containing the B chain of PDGF and a sandwich enzyme-linked immunosorbent assay specific for A-chain-containing isoforms, neither AA, nor AB, nor BB isoforms of this growth factor could be detected in medium conditioned by these cells. The absence of alterations in PDGF expression in rat mesothelioma, in contrast to the data for the human disease, suggests that the production of this growth factor by transformed mesothelial cells may be species specific.

L25 ANSWER 6 OF 8 LIFESCI COPYRIGHT 2006 CSA on STN
ACCESSION NUMBER: 93:8471 LIFESCI
TITLE: Development distribution of platelet-derived growth factor in the mouse central nervous system.
AUTHOR: Hutchins, J.B.; Jefferson, V.E.
CORPORATE SOURCE: Dep. Anat., Univ. Mississippi Med. Cent., 2500 N. State St., Jackson, MS 39216-4505, USA
SOURCE: DEV. BRAIN RES., (1992) vol. 67, no. 2, pp. 121-135.
DOCUMENT TYPE: Journal

FILE SEGMENT: N3
LANGUAGE: English
SUMMARY LANGUAGE: English
AB Immunoblotting and immunohistochemical techniques have been used to characterize the developmental changes in the distribution and relative quantity of platelet-derived growth factor (PDGF), an important mitogen and growth regulator for glial (and possibly neuronal) cells. PDGF exists as a dimer of two chains, A and B, and antibodies which are relatively specific for one chain or the other can be used to localize PDGF isoforms during development. We have also studied the distribution of PDGF receptor beta subunit (PDGF-R beta)-like immunoreactivity using an antibody probe. All 3 isoforms of PDGF are found in neural structures during development, beginning at about the mid-point of embryogenesis. Immunoblotting studies confirm the presence of PDGF isoforms in brain during embryonic and postnatal development, with the distribution and relative abundance of each isoform appearing to be independently regulated. By E15, both PDGF isoform and PDGF receptor beta subunit immunoreactivity have declined to near-background levels in the sensory ganglia, while in the spinal cord and developing forebrain, levels of all PDGF-related proteins remain high.

L25 ANSWER 7 OF 8 BIOTECHNO COPYRIGHT 2006 Elsevier Science B.V. on STN
ACCESSION NUMBER: 1991:21147700 BIOTECHNO
TITLE: Ligand-induced interaction between .alpha.- and .beta.-type platelet-derived growth factor (PDGF) receptors: Role of receptor heterodimers in kinase activation
AUTHOR: Kanakaraj P.; Raj S.; Khan S.A.; Bishayee S.
CORPORATE SOURCE: Coriell Institute for Med. Res, 401 Haddon Avenue,Camden, NJ 08103, United States.
SOURCE: Biochemistry, (1991), 30/7 (1761-1767)
CODEN: BICHAW ISSN: 0006-2960
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COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1991:21147700 BIOTECHNO
AB Two types of PDGF receptors have been cloned and sequenced. Both receptors are transmembrane glycoproteins with a ligand-stimulatable tyrosine kinase site. We have shown earlier that ligand-induced activation of the .beta.-type PDGF receptor is due to the conversion of the monomeric form of the receptor to the dimeric form .cents.Bishayee et al. (1989) J. Biol. Chem. 264, 11699-11705!. In the present studies, we have established the ligand-binding specificity of two receptor types and

extended it further to investigate the ligand-induced association state of the .alpha.-receptor and the role of .alpha.-receptor in the activation of .beta.-receptor. These studies were conducted with cells that express one or the other type of PDGF receptor as well as with cells that express both types of receptors. Moreover, ligand-binding characteristics of the receptor were confirmed by immunoprecipitation of the receptor-.sup.1.sup.2.sup.5I-PDGF covalent complex with type-specific anti-PDGF receptor antibodies. These studies revealed that all three isoforms of PDGF binding to .alpha.-receptor, and such binding leads to dimerization as well as activation of the receptor. In contrast, .beta.-receptor can be activated only by PDGF BB and not by PDGF AB or PDGF AA. However, by using antipeptide antibodies that are specific for .alpha.- or .beta.-type PDGF receptor, we demonstrated that in the presence of .alpha.-receptor, .beta.-receptor kinase can be activated by PDGF AB. We present here direct evidence that strongly suggests that such PDGF AB induced activation of .beta.-receptor is due to the formation of a noncovalently linked .alpha.-.beta. receptor heterodimer.

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ACCESSION NUMBER: 1990:20240377 BIOTECHNO
TITLE: Coexpression of the platelet-derived growth factor (PDGF) B chain and the PDGF .beta. receptor in isolated pancreatic islet cells stimulates DNA synthesis
AUTHOR: Welsh M.; Claesson-Welsh L.; Hallberg A.; Welsh N.; Betsholtz C.; Arkhammar P.; Nilsson T.; Heldin C.-H.; Berggren P.-O.
CORPORATE SOURCE: Department of Medical Cell, Biology, Uppsala University, P.O. Box 571 BMC,S-75123 Uppsala, Sweden.
SOURCE: Proceedings of the National Academy of Sciences of the United States of America, (1990), 87/15 (5807-5811)
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COUNTRY: United States
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 1990:20240377 BIOTECHNO
AB Suspensions rich in pancreatic .beta. cells were transfected by means of electroporation or by using the liposome technique with DNA constructs coding for the B chain of platelet-derived growth factor (PDGF) and the PDGF .alpha. and .beta. receptors to induce a mitotic response in this slowly replicating cell type. Transfection with the B-chain construct induced synthesis of the PDGF B-chain homodimer (PDGF-BB) as assessed by the presence of .sup.1.sup.2.sup.5I-labeled PDGF-BB competing activity in

the conditioned medium of the transfected islet cells. Moreover, islet cells transfected with the PDGF .beta.-receptor construct exhibited increased immunofluorescence staining with a PDGF .beta.-receptor antibody. These cells also displayed increased .sup.1.sup.2.sup.5I-labeled PDGF-BB binding compared with control transfected cells. Cotransfection with the B-chain construct or the addition of 10% fetal bovine serum or purified PDGF all induced DNA synthesis in islet cells transfected with the PDGF .beta.-receptor construct. Islet cells transfected with the PDGF .alpha.-receptor construct did not respond with stimulation of .cents..sup.3H!thymidine incorporation to any of the PDGF isoforms (PDGF-AA, -AB, or -BB). Cotransfection of the PDGF .alpha.- and .beta.-receptor constructs resulted in a loss of the DNA synthesis response to PDGF. The .beta. cells exhibited elevated levels of .cents..sup.3H!inositol trisphosphate after transfection with the B-chain and .beta.-receptor constructs, indicating activation of phospholipase C. Islet cells transfected with the different receptor constructs exhibited different patterns of tyrosine phosphorylation upon ligand activation. The results demonstrate that pancreatic islet cells can be stimulated to increase DNA synthesis by transfection with the PDGF .beta.-receptor gene, whereas cotransfection with the .alpha.-receptor gene may attenuate the growth response.